MEMORANDUM

TO: **Carl Leonard, AA/LAC**

FROM: **Mosina Jordan, USAID/Jamaica and Caribbean Regional Program**

DATE: **April 17, 2000**

SUBJECT: **Hurricane Lenny Special Objective Document (SpO)**

Attached for review is the USAID/J-CAR Hurricane Lenny assistance SpO. Based on the USAID/J-CAR assessment, I believe that this SpO represents a set of activities that will allow the U.S.G to play a major role in the recovery efforts in the countries of Antigua and Barbuda, Dominica, St. Lucia, and Grenada over a short period of time. Although the needs of each country as a result of damage caused by Hurricane Lenny is unique, we were able to identify four key results that capture our overall goal:

- **IR1 Key sea defense systems and selected sections of coastal highways reconstructed;**
- **IR2 Key personnel trained in specialized areas;**
- **IR3 Integrated coastal management plans developed in selected areas; and**
- **IR4 Economic activities reactivated.**

Per your guidance, we have presented two funding scenarios – a $5 million low (rather than the suggested $3 million) option and the preferred option of $10 million. USAID/J-CAR would like to take this opportunity to promote sustainable development and reduce vulnerability to natural hazards by supporting reconstruction activities using state of the art mitigation techniques for design and construction that will build capacity in these countries for continued long-term use and adoption of these techniques. In addition, specialized training that includes today's methodologies in environment and its relation to natural hazard loss reduction will target as many as one hundred people in these countries. Therefore, we strongly believe that a $10 million investment at this time will have a major impact on these countries in the future.

Based on our experience with Hurricane Georges, we are prepared to obligate the resources to a Limit Scope Grant Agreement with the Organization of Eastern Caribbean States. We also propose to use existing IQCs with USAID and other government agencies, such as the Department of Transportation. Contracting for reconstruction of damaged infrastructure will have to go through a competitive process and we stand ready to expedite the paperwork.

Although we are in the process of hiring a SpO manger, we have identified staff to assist with expediting the implementation of this program once it is approved.

USAID/J-CAR

HURRICANE LENNY RECOVERY IN THE EASTERN CARIBBEAN

SPECIAL OBJECTIVE DOCUMENT

APRIL 17, 2000

I. INTRODUCTION

Understanding the Development Challenge

Lenny was a late season storm that began as a tropical depression east of Central America on November 13, 1999. It moved in an unusual West to East direction and became a tropical storm by the evening of November 14th. The following day, the storm strengthened to a Category I hurricane (winds 74-95 mph) and on November 17th was at the Category IV level (winds reached 150 mph) pounding the Leeward Islands. It continued its easterly direction dropping to a Category III storm and subsequently dissipating over the Atlantic Ocean.

The hurricane demonstrated the vulnerability of the Small Island Developing States of the Caribbean Community. While there were relatively small humanitarian needs emanating from this event, the damage to coastal infrastructure, coastal communities and businesses was significant. Physical damage estimates are in the $269 million range with Antigua-Barbuda, Dominica, Grenada and St. Lucia being the hardest hit islands.

Hurricanes and tropical storms periodically wreak havoc in the Caribbean, creating conditions of disaster among the general populace and destroying the infrastructure. They have destabilized the small Eastern Caribbean economies, produced conditions of internal instability, and significantly reduced levels of investment, export earnings and tourism.

The capacity of small islands to stabilize and resume normal economic activity following hurricane induced setbacks depends on several factors, including the size of the country's international reserves, the country's capacity to organize external financial aid flows, and the speed with which normal trade patterns can be reestablished. Given that the small economies of Antigua-Barbados, Dominica, Grenada and St. Lucia have small reserves, considerable external debt, and damaged and destroyed infrastructure, it is clear that recovery can only be realized with the help of external aid flows.

Over the past five years, USAID has invested over $8 million in disaster mitigation and vulnerability reduction activities in the Caribbean with significant results. However, the devastation caused by Hurricane Lenny makes it clear that additional assistance in reconstruction, disaster mitigation and preparedness is essential. This Special Objective (SpO) under the Caribbean Regional Program recognizes the special development challenge that exists in the region, and places high priority on reconstruction activities, disaster mitigation and preparedness measures for loss reduction in the future.

Relationship to U.S. Foreign Policy and USAID Strategies

US Foreign Policy recognizes the special needs of the small economies in the Eastern Caribbean, and is committed to assist these small nations in their development efforts. This includes humanitarian/disaster assistance as well as assistance in the areas of trade, environmental protection and the administration of justice.

The Caribbean Regional Program (CRP) activities under this SpO will complement and contribute to the achievement of the CRP goal of "Broad-based and sustainable development in the Caribbean." The SpO will assist Antigua, Dominica, Grenada and St. Lucia in their reconstruction and recovery. Specifically, reconstructing key road sections and sea defense systems as well as reactivating economic activity will contribute to CRP strategic objective 1 (SO1) of increased employment. The technical assistance (TA) and training that will be provided will focus on the correct methodologies to use to design, construct and maintain coastal highways and sea defense systems and will contribute to the achievement of CRP strategic objective 2 of improved environmental management.

This SpO will also complement OFDA's activities in the region which focus on mitigation and preparedness measures. The OFDA strategy, as does this SpO, support the 1997 Bridgetown Declaration of Principals and OFDA's overall goal "Lives saved, suffering reduced, and development potential reinforced." J-CAR assistance in response to Lenny will directly contribute to OFDA's intermediate results – "Improved use of resources to link relief to development" under SO2 "Increased adoption of mitigation measures in countries at risk to natural and man-made disasters."

II. THE ECONOMICS OF THE ISLANDS

Economic Summary

The damage from Hurricane Lenny may appear limited at first sight. However, the hurricane damaged key infrastructure--roads, sea defenses, piers, jetties, etc.--which were costly to build and are costly to repair or replace. The hurricane inflicted significant costs on small island economies ill-positioned to bear them. The infrastructure costs alone of Hurricane Lenny, the cost of brining infrastructure back to its predisaster condition, and not counting loss of current production, has been estimated by CDERA at $51.3 million for Antigua and Barbuda, $21.5 million for Dominca, $94.3 million for Grenada, and $6.6 million for St. Lucia. The total hurricane damage to Antigua and Barbuda is equivalent to 7.5 percent of estimated 1999 GDP. For Dominica, the damage was equal to 8.8 percent of GDP, for Grenada, 27.0 percent, and for St. Lucia, 1.1 percent. To put these figures in perspective, the total cost of Hurricane Andrew, the most costly natural disaster in the history of the United States, was $30 billion, equivalent to one-half of one percent of US GDP.

A) Grenada

Hurricane Lenny struck at a particularly unfortunate time for Grenada. With a population of 96,000 people, Grenada's economy had only recently begun to accelerate from a rate of growth of about three percent per year to six percent in 1999 which makes it possible for the country to significantly reduce unemployment and poverty. During the second half of the 1990s, the Grenadan economy weathered the disease-related loss of its banana market through growth in tourism, spice exports, and light manufacturing. Banana exports declined from $2.1 million in 1994 to zero by 1997. At the same time, nutmeg exports increased in both volumes and unit value terms, with the total value growing from $4.5 million in 1994 to $6.8 million in 1997. During this same period, the total value of the associated Mace exports grew from $700,000 to $1.2 million. Unit values increased even further in 1998 and 1999 as supplies to the world market from Indonesia, Grenada's principal competitor, were disrupted by the Indonesian economic and political crisis.

The damage to transportation infrastructure along Grenada's west coast has impaired the movement of agricultural products. Much of these crops are grown in the north of the island and the west coastal road provides the only practical link between the growing areas and the port and airport facilities. In contrast, Grenada's significant light manufacturing sector, accounting for about 7 percent of GDP, was relatively unaffected. Most manufacturing, which includes production of alcoholic beverages, cigarettes, soft drinks, flour, and paint and varnish, is located away from coastal areas.

The critically important tourism sector was affected in a number of ways. Hurricane Lenny destroyed a number of beachfront restaurants and other facilities, and caused significant beach erosion at a number of tourism destinations. It also accelerated the erosion adjacent to the runway of the international airport, threatening to undermine one end of the runway.

The tourism sector is by far the most important in Grenada. Total income derived from tourism has increased from $81.4 million in 1994 to $96.5 million in 1997. By far the largest part of this income is from stay-over tourist at local hotels. Such visitors accounted for $89.0 million out of the total of $96.5 million on 1997 tourism expenditures. However, cruise ship tourism is significant and has been growing at a faster rate (5.3 percent per year versus 1.7 percent of stay-over visitors).

Further complicating Grenada's response to Hurricane Lenny is a severe deterioration in the government's fiscal position despite Grenada's accelerating growth. The deficit of the Central Government increased from only 0.6 percent of GDP as recently as 1995, to an estimated deficit of 7.7 percent in 1999. This increase largely represents an acceleration of the public sector investment program and could be justified if the projects being financed were well chosen

and designed to provide maximum return to the Grenadan economy and ultimately to the population at large. Unfortunately, the indications on this score are not reassuring.

The effect of fiscal deficits on an economy with an external central bank is different from those in other countries. An accumulation of fiscal deficits in the OECS countries represents a mortgaging of future tax revenues rather than a buildup of inflationary pressures. Thus, the cost of hurricane reconstruction, added to an already ambitious public sector investment program, may lead to an increase in the cost of both and act as a future drag on the economy and on the GOG's ability to deliver essential services.

Examples of questionable projects include the new national stadium, which was built on a "lease-to-own basis which seems to carry a very high implicit financing charge for the GOG, as well as uncertain recurrent cost implications. Similarly, both the very high incremental capital output ratio (ICOR) and many donors' observations that planned sea defense systems appear to be "overdesigned" suggest that project design could be improved. It is important, therefore, that the GOG receive assistance in project design and execution and that as large a part of the reconstruction efforts as possible be grant financed.

B) Dominica

Dominica has a population of approximately 74,000 people. The newly elected government of Dominica faces fiscal problems as severe as those of Grenada, but without Grenada's high level of output growth. The overall structure of the Dominican economy has tended to move away from agriculture, which made up 30 percent of GDP as recently as the 1980s, and declined to only 20 percent of GDP by 1998. Banana production has declined from 43.8 thousand metric tons in 1994 to 28.6 thousand metric tons in 1998. Other export crops, particularly citrus, showed little or no growth during this same period.

Offsetting this disappointing performance of the agricultural sector has been some dynamism in the tourism sector. However, despite a 63 percent increase in the number of visitors over the four-year period ending in 1998, the total spending by tourists increased at only 5.8 percent per year. This was largely because the largest increase in visitors was from cruise ships with a relatively modest increase in higher-spending stay-over visitors. The major reason for the relatively poor performance of the tourism sector is a lack of adequate infrastructure to support a larger number of visitors. Both the capacity of the principal Melville Hall International Airport and the capacity of the road network, limit the ability of Dominica to accommodate a much larger number of visitors. The issue of whether Dominica should construct a new international airport capable of handling jet aircraft and night operations is a controversial one. However, there is no question that the current highway network limits the expansion of the tourism sector.

Dominica's small manufacturing sector, which consists almost exclusively of soap and coconut products, has grown at 7.7 percent per year over the four year period ending in 1998 and accounts for 8.2 percent of 1998 GDP. The continued viability of this sector is also threatened by the vulnerability of the country's road transportation links to high surf during storms such as Hurricane Lenny.

The ability of the Dominican Government to finance reconstruction spending is limited. Although the public sector deficit is manageable at about 2.5 percent of GDP, public sector saving has been declining (that is, current spending has been taking up a steadily larger share of government spending). The rising deficits of the parastatal Dominica Banana Marketing Corporation have added to the government's difficulties.

Donors have strongly recommended to the Government that it scale back its ambitious public investment program. In particular, the government has been advised to drop its proposed new stadium and scale back the proposed new airport. However there is little doubt that the limited capacity of the current Melville Hall facility and the narrow road linking it to Roseau are a constraint to further tourism development on the island. Any move to relax these constraints, whether by expanding the current Melville Hall facility or beginning construction of a new airport, is likely to considerably increase Dominica's external debt.

Dominica's external debt situation is manageable but the government's ability to undertake major new debt obligations is limited. As of the end of calendar 1998, external debt stood at $90 million. Of this, about half, $42 million, was owed to the Caribbean Development Bank, and another $14.2 million was owed to IDA. As a result, the average interest rate is only 2.9 percent/year. Still, in the recent past, Dominica has had serious arrearages on its debt obligations amounting to 29 percent of its FY1995/96 debt obligations. The previous government managed to eliminate these arrearages, but the difficulty Dominica has had with managing its debt burden in the past suggests that it should avoid loan financing of hurricane reconstruction to the extent that it can. Consequently, it is important that as much as possible of hurricane reconstruction activities be funded by grants or highly concessional loans.

D) Antigua and Barbuda

Antigua and Barbuda, with a population of 76,000, has by far the highest income of the ECS states and one of the most troubled economies. It has the highest concentration of any of the OECS economies in beach tourism. Total income derived from tourism (which, of course, includes some import content) was equivalent to 46.7 percent of GDP in 1998. The hotel and resteruant sector alone contribute 12.2 % to GDP. This and financial services (10 percent of 1998 GDP) are the principal economic sectors in the country. By contrast, crop agriculture contributed only 1.1 percent of GDP and the broadly defined agricultural sector

(including livestock, forestry, and fisheries) accounted for only 4.0 percent. Antigua's tiny manufacturing sector contributed only 2.3 percent of 1998 GDP. Considering the importance of beach tourism, to the Antiguan economy, the incidence of beach erosion and exposure of the coastal developments, particularly along the northwest coast just north of the entrance to St. John's harbor, takes on particular significance.

Despite its high per capita income, Antigua in many ways is the most troubled of the Eastern Caribbean economies. The level of tax effort, the ratio of tax revenues to GDP, is 17.6 percent, one of the lowest in the Caribbean, as a result of widespread use of tax exonerations for a variety of purposes. The extensive granting of tax exonerations in 1999 prior to the elections worsened the fiscal figures for 1999 and the fiscal deficit for 1999 is estimated at 7 percent of GDP.

Partially as a result of these low levels of tax revenues, public sector savings have been persistently negative (equal to a negative 2.8 percent of GDP in 1998). This means that all capital expenditures, and a significant portion of current expenditures, are financed by borrowing. As a result, external debt has climbed to 66 percent of GDP, and most of that is on commercial terms. Since 1996, the government has made considerable progress in reducing the arrears on this debt, which reached US$431.3 million in that year, but as of the end of 1998, arrears still equaled US$149.6 million.

In short, the Government of Antigua has a very poor credit and fiscal situation and should probably be very cautious in acquiring further external debt to finance hurricane recovery.

E) St. Lucia

St Lucia is a well governed Eastern Caribbean State, with a population of 160,000 people. However, its growth rate has been disappointing in recent years, climbing slowly from 1.4 percent 1996 to 3.0 percent in 1999. Overall growth has been a result of steady growth in the tourism sector and equally steady decline in the agriculture (mainly banana) sector. Since 1996, banana production and exports have declined steadily as the market has been affected by competition from Latin American producers (even though these are subject to a 20 percent tariff) and some quality issues, which have resulted in price discounts for St. Lucian bananas.

Offsetting these adverse developments in the agricultural sector has been a booming tourism sector. Since 1994, tourism receipts have increased from 40.0 percent of GDP to 45.4 percent in 1998. These gains result from an annual increase of stay-over arrivals of 6 percent per year and an increase in cruise ship passengers of 23 percent per year.

St Lucia's fiscal situation is relatively healthy but with certain problems. Tax effort has been steady at about 22 percent of GDP, despite perhaps overly generous tax incentives to all-inclusive hotel and cruise ship facilities. The overall fiscal balance for the consolidated non-financial public sector has remained steady at about one percent of GDP and stood at 1.1 percent of GDP for FY1998/99. However, this surplus has been maintained by gradual reductions in the public sector investment budget as public sector savings declined from 10 percent of GDP in FY1993/94 to about 6.5 percent in 1997/98. Thus, fiscal balance was maintained but there was a postponement in needed public sector infrastructure.

The current administration which took office in late 1997 has attempted to strengthen the government's fiscal position by improving the efficiency of the St. Lucia Banana Growers Corporation and by limiting the rise in the public sector wage bill. As a result, public sector savings increased to about 8 percent of GDP in FY 1998-99. This permitted an expansion of public sector investment from 5.6 percent of GDP in FY1997/98 to 9.2 percent in FY 1998/99, with almost no change in the overall fiscal balance.

As a result of a long history of cautious fiscal management, St. Lucia's external debt is one of the smallest in the region, equal to 27 percent of GDP, and the ratio of debt service payments to exports of goods and non-factor services is equal to only 4 percent.

III. PROBLEM ANALYSIS

Hurricane Lenny was a late season storm which reached a Category IV level. Its wind speeds reached 150 miles per hour thus making it the most powerful late November storm on record. It affected the Lesser Antilles from November 15 – 19, 1999. Though Tropical Storm and Hurricane Advisories were offered only for the Leeward Islands, its impact was felt as far south as Tobago. Coastal communities and infrastructure were flooded, eroded and severely impacted by the high swells and surges generated by the storm. Lenny was unusual in that it followed a west to east (rather than an east-west) trajectory through the Caribbean. As a result, the Western (rather than Eastern) coastlines of many Caribbean islands took the brunt of the storm. The West Coasts of these islands are where the white, sandy beaches exist and where the tourist infrastructure has been extensively developed. These areas are not as protected or prepared to take the initial impact of a hurricane and thus took a severe pounding with resultant economic losses.

The Eastern Caribbean Donor Group estimated that total physical damage caused by Lenny to be $269 million. While preliminary, these high estimates reflect the significant damage to coastal infrastructure, coastal communities and businesses.

Immediately following the storm, several assessment teams were mobilized by USAID and the OECS Secretariat to make initial damage assessments. These assessments

showed that the islands most adversely affected by Lenny were Antigua-Barbuda, Dominica, Grenada and St. Lucia. As a result, the U.S. Charge in Barbados declared disasters for these four islands and a $100,000 Grant was provided by OFDA for UNDP to deal with immediate humanitarian needs.

Antigua-Barbuda suffered more from severe flooding than from wave action. It is estimated that 20 to 33 inches of rain fell over a 48-hour period. In Antigua, the northwestern and southern tip of the island was the most affected with severe landslides taking place, roads being eroded and washed away in at least two key places, and drainage channels becoming clogged and flooding. Some beaches were severely eroded. In Barbuda, it is estimated that up to 65% of the island was underwater (the island is quite flat) with sanitary facilities overflowing and water storage facilities contaminated. All private wells as well as the sole well supplying the public distribution system were inundated and contaminated.

Dominica suffered from wave action. Along its West Coast, the coastal highway was severely eroded and seawall and sea defense systems strained. Roseau, the capital, was cut off for a few days from its petroleum storage facilities as well as the northern section of the country including its two airports. The most trafficked road in Dominica (Pottersville to Rockway) was closed until it could be repaired.

Grenada and Carriacou, which were well South of Lenny's path, also suffered extensively from wave damage. The greatest damage was concentrated along the West Coast of Grenada from Grand Anse Bay (Grand Anse Beach) in the South to Victoria on the St. Mark Bay to the North. Grenada's West Coast towns were cut off from the capital, St. Georges. There was a fuel shortage on the island as the main fuel storage facilities, located at Grand Mal, were cut off on either side from the main West Coast road. The St. George's Harbor received a pounding destroying several small craft, two floating structures and damaging sidewalks and roads. Beaches along the West Coast were severely eroded. In the case of Grand Anse Beach, which is widely acclaimed for its wide expanse of white sand, the sea had encroached so far inland that the beach had all but disappeared. In Carriacou, the road to the airport had been washed away as well as the sea defenses in the area.

The West Coast of **St. Lucia** was also affected by the wave action of Lenny. The hardest hit areas were the coastal areas of the town of Soufriere, the quarter/parish of Gros Islet and the villages of Anse La Raye and Chiseul. Beach erosion was significant on the Northwest coast of the island with roads and pedestrian walkways that were close to the beaches washed away. The hardest hit town on the island was Soufriere. Portions of its waterfront had been inhabited by a fishing community as well as a community of squatters. The squatters constructed some 100 houses of poor construction standards and many of them were severely damaged. An additional 21 houses of concrete block were damaged as was the seawall. The adjacent road was destroyed. In addition, the rising floodwaters from a river that runs through the town added to its inundation. While this flooding is not just specific to Lenny, when this happens, it cuts off the hospital from the rest of the town.

IV. IMMEDIATE RESPONSE TO HURRICAGE LENNY

Local Governments

The Governments of Antigua-Barbuda, Dominica, Grenada and St. Lucia carried out a rapid response to the damage caused by Lenny. Their focus was to reinstate services and reopen roads as quickly as possible.

In Antigua-Barbuda, landslides were cleared, temporary repairs done to the roads to open them up (the private sector contributed rock and fill material) and the potable water system on Barbuda was flushed and purified. Some clearing of drainage canals was carried out.

Dominica's Public Works Department moved quickly to clear debris from roads and in those areas where the road had completely washed away, carry out temporary road repairs to get them back in service as expeditiously as possible. Temporary repairs to sea defense systems were also made and the Government provided temporary shelter and assistance to the 42 families that were displaced.

In Grenada, the immediate focus was reopening road access to its fuel depot. Temporary repairs were also made to other roads and sea defense systems. On Carriacou, work focussed on reopening the road to the airstrip.

St. Lucia worked to establish a temporary shelter in a school for some 70 families displaced by the storm. Because of the concern that people would attempt to occupy unsafe structures left standing along parts of the coast after the storm, Government personnel moved to demolish several unsafe houses and structures. Temporary repairs to roads and sea defense systems were also carried out.

U.S. Government Contribution

Immediately following Lenny, a six-person USAID/OFDA team was deployed to the region. This team assisted with damage and needs assessments, made recommendations for additional assistance as appropriate, served as USG liaisons with other donors, and provided up-to-date reporting on the relief operations. In the process, $100,000 of Disaster Assistance Authority (DAA) funds was granted by OFDA to the United Nations Development Program (UNDP)/Eastern Caribbean Office in Barbados to provide shelter and help meet the immediate, basic human needs of persons in Antigua-Barbuda, Dominica, Grenada and St. Lucia. In addition, $75,000 was provided to the Pan American Health Organization (PAHO) to address environmental health concerns, and $10,000 was provided to cover the associated costs of contracting four engineers working on the Eastern Caribbean Donor Group Damage Assessment Team. Thus, total immediate USG assistance to this effort was $185,000.

Other Donor Contributions

As of December 17, 1999, other donor support stood at $1.1 million. The bulk of this response has been to fund temporary emergency repairs and meet immediate humanitarian and shelter needs. Donors who have contributed to this effort include the Caribbean Development Bank (CDB), UNDP, CIDA, DFID, the EU and the UN/OCHA.

V. RECONSTRUCTION ACHIEVEMENTS TO DATE

The immediate response phase is now over in Antigua-Barbuda, Dominica, Grenada and St. Lucia. Efforts are now focussed on recovery and rehabilitation. Temporary repairs have continued to be made to sections of coastal highways and sea defense systems.

On the island of Barbuda, a large amount of chemicals used to decontaminate water supplies is now being stockpiled on the Island. In Antigua, temporary road repairs continue but are quite provisional. Any heavy rains would wash away the repair work done and make many roads impassable.

Dominica is reviewing blueprints that were developed in 1996 recommending the appropriate sea defense systems and road structure along different sections of the coast with an eye to updating this information. Using a $4.9 million loan from the CDB, it is also completing the installation of a sea defense wall and highway just South of Roseau (its capital).

In Grenada, the section of land that had been severely eroded next to the main runway (thus threatening this runway) is being reclaimed. Additional roads and sea defense systems along the West Coast have been temporarily repaired. However, it must be emphasized that much of this work is temporary and could easily be lost with any heavy rainfall or wave action.

St. Lucia still operates an emergency shelter in a school for people displaced by Lenny. They are well along in resettling these people to new houses that have been built for them away from the shoreline. It is in the initial stages of developing plans of what to do along the coastline of two towns (Gros Islet and Soufriere) that were adversely affected by Lenny.

VI. PLANNED ACTIVITIES BY OTHER DONORS

The World Bank, CDB, CIDA and DFID all are planning additional projects to address existing hurricane damage and mitigate future damage caused by storms of this nature.

The World Banks is looking to do the following; in St. Lucia, strengthen the Office of Disaster Preparedness through TA and the purchase of key commodities

(island-wide emergency communication system, disaster equipment and loss reduction material (such as blue plastic sheeting). In Dominica, funds will be provided for sea defense works, river control and flood damage reduction, road protection, construction of hurricane shelters, strengthening the Office of Disaster Preparedness, developing an adverse weather early warning system and for community based disaster management. Finally, funds in Grenada will be used to construct several sea defense systems, rehabilitate several bridges, and carry out studies on flood control measures as well as slope protection and flood risks along all of the main roads. The estimated loan amount that will be provided for all of these activities is $24 million.

CDB is considering a loan of about $5 million to St. Lucia which would be used for reinstatement of roads, the redevelopment of waterfronts, and repairs for minor damages and cleaning in La Soufriere, Gros Islet and Anse La Raye. In Dominica, it is considering a $5 million loan to cover the cost of repair to sea defenses along the coast from Roseau to Scotts Head. In Grenada, it is close to finalizing a $10 million loan to include, among others, sea defense work at Grand Mal Bay and Palmiste White Gate.

CIDA is supporting a $4 million regional strategy for the OECS countries. A key element of this strategy centers around coastal and marine management planning for disaster management.

DFID is currently carrying out a review of the institutional framework for disaster management in OECS countries to determine areas where its proposed assistance of about $300,000 could best be used.

While the above list of proposed activities is lengthy, it does not address several key areas that the USAID needs assessment team examined. USAID/J-CAR proposes to respond to several of these unmet needs through this SpO.

VII. PROPOSED HURRICANE LENNY RECOVERY PROGRAM

As noted above, the affected Island Governments and the donor community have provided the necessary resources to deal with the most immediate and pressing needs resulting from Lenny. This assistance was key to opening temporary shelters for displaced people, getting displaced families basic needs, carrying out temporary road and sea defense work, decontaminating potable water sources and clearing landslides and debris. The assistance helped re-establish public infrastructure that had been made inoperative by the storm.

However, additional support will be required in order to repair the infrastructure damaged by Lenny and to allow islanders to return to self-sustaining economic activities. As noted in Section III, Lenny did extensive damage to areas of the islands where the tourism infrastructure was the most developed. This has had an adverse impact on small- and micro-enterprises (especially in Antigua, Dominica

and Grenada) which are dependant on the tourist trade. All activities will be designed so as to recognize the medium term nature of this effort while contributing to the long-term sustainable development objectives of USAID's regional program in the Caribbean. All designs will include the necessary criteria to mitigate against future disasters over a 50-year period.

This Special Objective (SpO) is aimed at achieving four intermediate results in Antigua-Barbuda, Dominica, Grenada and St. Lucia. In carrying out this program, the ability of these countries to withstand and respond to future disasters will be strengthened.

The Intermediate Results are as follows:

IR1: Key sea defense systems and selected sections of coastal highways reconstructed.

IR2: Key personnel trained in specialized areas.

IR3: Integrated coastal management plans developed in selected areas (Antigua and St. Lucia only).

IR4: Economic activities reactivated.

This SpO provides a strategic focus within the regional strategy for Hurricane Lenny reconstruction efforts. It will facilitate discussions with regional counterparts and provide the basis for obligating funds immediately. It will seek to coordinate ongoing activities with the Eastern Caribbean Donor Group (donors such as the CDB, World Bank, CIDA and DFID and the UNDP) and strengthen existing Lenny recovery programs.

A) Linkage to USAID/J-CAR and OFDA Regional Strategies

1) Caribbean Regional Program (CRP)

The proposed activities under this SpO will complement USAID/J-CAR's CRP initiatives for increasing employment and diversification in select non-traditional activities and improved environmental management by public and private entities. Funding for the five year CRP is $30 million. The CRP will work in partnership with CARICOM and the OECS, national governments, non-governmental organizations and the private sector to achieve three strategic objectives: a) increased employment (through increased trade and production), b) improved environmental management, and c) increased efficiency and fairness of legal systems.

The reconstruction of coastal roads and sea defense systems will not only provide short-term jobs but the strengthened infrastructure will allow for

the more efficient movement of non-traditional products to market. In addition, what the Hurricane Georges SpO is carrying out in Antigua under the CRP in the area of reactivating economic activities will complement those being carried out under this SpO. In Antigua, the Hurricane Georges SpO will carry out a process-oriented policy and planning activity that will result in a disaster mitigation policy and plan. This will be fully integrated into any physical and economic development planning. The training component (IR2) of the Lenny SpO will provide extensive short-term training in the design and maintenance of coastal highways and sea defense systems to selected individuals who will then be able to participate in developing a disaster mitigation policy and plan.

2) OFDA Support to the Region

Other relevant USAID assistance to the Caribbean includes funds provided through OFDA. In addition to OFDA's emergency phase contribution which is described in Section IV(B) above, OFDA is also providing funding for the development of a five-year, $3 million disaster mitigation facility at the CDB. This facility will address the inclusion of hazard mitigation assessment and practices in the loan portfolio for borrowing member countries and build upon the preparedness and mitigation successes and lessons learned under its recently completed pilot initiative; the Caribbean Disaster Mitigation Project.

These resources are also leveraging support for regional mitigation planning and policy enhancement, capacity building, and natural hazard assessment in order to reduce future losses from hurricanes and other natural hazard impacts. The DMFC will work closely with regional and national institutions involved in development finance, physical and economic planning, and disaster preparedness and mitigation to develop vulnerability reduction policies and conditionalities for improved building standards and practices. In addition, at the national level, it will seek to facilitate the integration of mitigation tools into the national and economic development planning process. Interventions will serve to strengthen the capacity of host country institutions to implement measures that can mitigate damage from future hurricanes and decrease the need for emergency response resources in the future.

VIII. ILLUSTRATIVE APPROACHES AND IMPLEMENTING PARTNERS

IR1: Key Sea Defense Systems and Sections of Coastal Roads Reconstructed

Listed below are illustrative examples of what will be carried out under this SpO. These activities are what the needs assessment team observed were needed as they visited the islands. The activities might somewhat change as additional information is obtained and implementation plans finalized.

Overview

Hurricane Lenny inflicted major damage on the sea defense systems and coastal roads in Antigua, Dominica, Grenada and St. Lucia. The damage in Antigua was more the result of flooding rather than wave action while damage on the other islands was caused by wave impact and the extensive erosion which resulted. Activities under this IR will repair key sea defense systems and sections of the coastal roads. All construction will take into account future long-term coastal and flood hazards over a 50-year cycle.

Illustrative Approaches

In **Antigua**, the road at Darkwood Beach is between a lagoon and the sea. During heavy rains, there is no way for the pond to drain to the sea without taking out a section of the road. A proper drainage/flood overflow system will be designed and installed to alleviate this problem.

- In **Dominica**, the major road leading out of Roseau to Canefield was severely damaged by Lenny. While donor resources are being used to repair certain sections of this road, there is one portion of it (Pottersville to Woodbridge) which has not been repaired and is a critical transportation link to the rest of the country. A proper sea defense system and road will be designed and built in this area.

- In **Grenada**, the sea defense wall and road were washed away and tenuous, temporary repairs have been carried out. An appropriate sea defense system will be installed in this area and road construction carried out in the Palmiste area. While the CDB resources will fund some repair work in this area, the funds available will not cover all of the repair needs. Thus, the proposed USAID intervention.

- The shorelines of the towns of Gros Islet and Soufriere in **St. Lucia** were both hard hit by the wave action of Lenny. Sea defense walls, roads and pedestrian walkways were washed away. These need to be put back in place. However, it is expected that a coastal zone development plan will first be carried out to determine how these coastal lands are to be developed and sea walls, roads and pedestrian walkways built in accordance to these plans.

Implementing Partners

The implementing partners for this will be the governments' and selected communities of the islands. In most cases, USAID will directly contract with private firms to carry out the work.

Expected Outcomes

- Coastal roads reconstructed.
- Sea defenses repaired.
- Pedestrian walkways repaired.

Resource Requirements

Resource requirements will range from the low option of $2.7 million to the preferred option of $7.05 million.

IR2: Key Personnel Trained in Specialized Areas

Overview

Methodologies that are used to reconstruct and maintain sea defense systems and coastal roads are constantly evolving. Today's technologies focus on incorporating environmental issues, natural hazard assessments and future loss reduction into any work that is carried out and blending any structure that is constructed into the local environment. There is increased concern about minimizing the environmental impact of any construction or repair activity that is carried out.

These latest methodologies need to be transferred to those people within the island governments who are most directly in charge of the type of work described above. Engineers, architects and other key personnel will be provided with a series of short-term training opportunities that cover the above-mentioned areas.

Illustrative Approaches

Between 30 and 100 people will be given a series of short term training courses which is described in (1) above. This training will be both on-site and off-shore.

Implementing Partners

The implementing partners will be U.S. and Caribbean educational institutions and consultants that provide the training that is described above.

Expected Outcomes

Thirty to one hundred people trained in the design and maintenance of sea defense systems and coastal roads.

Resource Requirements

Resource requirements are estimated to be $650,000 for the low option and $1,000,000 at the preferred option.

IR3: Integrated Coastal Management Plans Developed in Selected Areas (Antigua and St. Lucia only)

Overview

Hurricane Lenny did damage to Dickenson Bay and Runaway Bay in Antigua. Beaches were severely eroded and in some areas, beaches no longer exist. Roads were washed away and sea defense walls were damaged, further exacerbating the exposure of tourism infrastructure to natural hazards. Antigua depends heavily on tourism and over 70% of the hotel rooms are on these two bays. Thus, the economic contribution of this area to the island economy is quite large.

In St. Lucia, Lenny did extensive damage to the shorelines of Gros Islet and Soufriere. The Government of St. Lucia has turned this disaster into an opportunity by engaging with the population of these towns to reach agreement on how their two shorelines can be better developed. The objective is to increase tourist revenue at the local level while enhancing management of coastal resources.

Illustrative Approaches

Through a highly participatory process, carry out coastal zone studies and develop coastal zone management plans for the above-mentioned areas. In Soufriere, input for these studies will be provided by the private-public USAID supported partnership which established a highly successful marine management area, the town council and others. Findings from these studies will help shape the construction work that will be carried out in IR1.

Implementing Partners

Implementing partners could be the island governments, and community councils supported by private contractors and the National Oceanographic and Atmospheric Administration (NOAA).

Expected Outcomes

Detailed plans in place recommending how the above-mentioned coastal areas are to be developed and managed.

Resource Requirements

Resource requirements are estimated to be $900,000.

IR4: Economic Activities Reactivated

Overview

With regard to the private sector, Hurricane Lenny adversely effected the tourism sector. In Antigua, the Blue Heron Hotel has still not reopened for business. In Grenada, small businesses along Grande Anse Bay were damaged, and in St. Lucia, a crafts market and private jetties were lost. Insurance rates in Antigua have skyrocketed with premiums increasing by as much as 40%. These increases are passed on to the end user of products making everyday living that much more expensive.

This IR will focus on assisting micro and small businesses on these three islands.

Illustrative Approaches

The following activities could be supported:

- Provide credit to micro and small businesses disadvantaged by Lenny.
- Examine the increase in insurance premiums to determine whether any unsubsidized mechanisms are available to reduce the rate of increase in insurance premiums.

Implementing Partners

Implementing partners could be credit unions, national development foundations, insurance companies and private consultants.

Expected Outcomes

- Increased credit available to micro and small businesses at market rates.
- Financial mechanisms explored and, where possible, put in place that will reduce the rate of increase of insurance premiums.

Resource Requirements

Resource requirements are $400,000 for the low option and $700,000 for the preferred option.

IX. BENEFICIARIES

As the program results are realized, the broad category of beneficiaries will be the citizens of Antigua, Dominica, Grenada and St. Lucia who rely upon the shoreline defense and coastal highway system for their livelihood, transportation, and recreation; and as well as micro and small businesses on these islands. The immediate beneficiaries however, will be the disaster planning and public works institutions through direct financing of their works program, technical assistance, improved systems and training.

X. CRITICAL ASSUMPTIONS

Attainment of the expected results from the activities shown above assume that:

- Macro economic conditions observed will remain essentially the same over the implementation period.
- The 2000 hurricane season will not interfere with implementation activities and its impacts will be not greater than in 1999.

XI. COORDINATION WITH OTHER DONORS

There will be close coordination with all partners involved in the reconstruction efforts on these islands. In carrying out the needs assessment which resulted in the development of this document, Mission personnel have had meetings and/or telephone conversations with World Bank, CDB and DFID personnel. This will continue as the SpO is implemented. CIDA personnel will also be contacted and USAID will continue to participate in any donor working group having to do with Hurricane Lenny reconstruction.

XII. IMPLEMENTATION PLAN

The estimated financial requirement to support the above efforts ranges from a low option of $5 million to a preferred one of $10 million. USAID will implement activities through local and regional contractors, NGOs and other U.S. Government agencies. In particular, USAID/J-CAR will make maximum use of existing IQC contracts to carry out many of the activities. These include:

- Architecture and engineering work for the design of the sea defense systems and coastal road repair, as well as overseeing the engineering firms that build this infrastructure,
- Implementation of the training activity, and
- Development of coastal zone plans.

The contracting for the reconstruction of damaged infrastructure will go through a competitive process.

Finally, the economic activities that are proposed will be carried out through a series of Cooperative Agreements, and where studies are necessary, through an IQC-type mechanism.

Activities will be carried out in concert with other donors and the island governments. Implied in this implementation approach is the need to establish close relationships and effective synergies between and among all partners. A continuous audit capability will also be in place.

Once the SpO and budget allowances are approved, USAID will sign a Limited Scope Grant Agreement with the OECS Secretariat. This will allow the funds to be quickly obligated and allow flexibility to shift funds among activities and countries depending upon how well and quickly activities are carried out.

USAID will then work with the island governments, NGOs and contractors to develop the appropriate work plans and budgets covering an 18-month period.

XIII. MANAGEMENT PROCEDURES

Roles and Responsibilities

USAID/J-CAR will negotiate agreements, monitor performance, coordinate implementation, and ensure proper accountability of funds in accordance with standard USAID policy and procedures.

USAID/J-CAR management, technical and support staff (including USDH and program funded staff) along with OFDA/LAC advisors will play a key role in defining overall SpO actions to attain desired results, and in fulfilling required USAID implementation monitoring, contract management, audit and evaluation responsibilities.

The USDH manager of the Mission's Office of Economic Growth will have overall supervisory responsibility and will make periodic trips to the project sites. Supplemental OE funds will be required to support this individual's work in the Eastern Caribbean, and to pay for other USDH travel (eg: management, legal, contracting, controller and technical office).

In order to carry out the activities under this SpO, the following personnel will be required; a Program Manager, a Program Assistant and a part-time secretary that would be shared with personnel who are engaged in implementing the Georges SpO. We are budgeting $350,000 for monitoring and evaluation support.

Procurement Plan

There are three main categories of procurement actions that will be used to implement the SpO. These are:

- Direct procurement actions,
- Procurement actions through implementing partners, and
- Procurement actions related to monitoring and management of the SpO.

Performance Monitoring and Evaluation

USAID/J-CAR, in concert with its implementing partners, will monitor performance and make decisions on formal evaluations. Performance monitoring will assess the extent to which the activities are contributing to the planned results. Based on an analysis of performance, USAID will recommend changes or modifications in the mix of activities and implementation strategies. Evaluations may also be used to assess activity effectiveness and recommend strategies for improving implementation through an analysis of obstacles and bottlenecks as well as achievements in management and administration. Funds are included in the budget to contract services for monitoring and evaluation.

Environmental Considerations

Initial Environmental Examinations (IEE) or impact assessments will be conducted based on existing regulations and USAID relevant guidelines on a case-by-case basis.

XIII) COST ESTIMATES AND FINANCIAL PLAN

A) USAID Contribution

The guidance that we have received from USAID/W, asked the Mission to prepare a low and a high budget scenario. We have done this with the low scenario being for $5 million and the preferred option being $10 million.

Implementing this program will not only require CACEDRF funds but additional OE funds as well. An estimated $60,000 in OE is required in order for USDH staff to adequately design and monitor the different components of the SpO. The funds should be provided to the Mission so that they can be retroactively applied to the travel of the USDH staff in the Eastern Caribbean who were engaged in the design of the SpO.

B) Audits

The USAID/J-CAR Office of Financial Management will ensure that arrangements are made for periodic audits in accordance with USAID policies and procedures. Audits will take into account the historically difficult nature of disaster funds management.

C) Illustrative Budget

Activity	Low Option	Preferred Option
IR1: Key Sea Defense Systems and Sections of Coastal Roads Reconstructed	*$2,700,000*	*$7,050,000*
IR2: Key Personnel Trained in Specialized Areas	*$650,000*	*$1,000,000*
IR3: Integrated Coastal Management Plans Developed in Selected Areas (Antigua and St. Lucia only).	*$900,000*	*$900,000*
IR4: Economic Activities Reactivated	*$400,000*	*$700,000*
Monitoring and Management	*$350,000*	*$350,000*
TOTAL	***$5,000,000***	***$10,000,000***